Validation Plan

1. General Information:

Intended Use:
Integrated into a clinical network to assist a radiologist with quantifying Hippocampus volume for Alzheimer's progression.

Indications for Use:
It can be used for both male and female patients using MRI images.

Limitations:

- This AI algorithm will perform well when the input data is cut to a rectangular portion of a brain scan rom every image series for a volume in the NIFTI format.
- Require high-power processing computer to run the algorithm

2. Dataset

We are using the "Hippocampus" dataset from the Medical Decathlon competition.
This dataset is stored as a collection of NIFTI files, with one file per volume, and one file per corresponding segmentation mask.

3. Algorithm Performance

Metrics
Two metrics are used to measure the performance of the algorithm:

- Jaccard Similarity Coefficient
- Dice Similarity Coefficient

Performance on given dataset
The algorithm can achieve a Dice Similarity Coefficient approximately 0.90 and Jaccard Similarity Coefficient approximately 0.82

4. Real-world Inference

- The algorithm can only perform on T2 MRI brain scan.
- The algorithm cannot perform on other image format such as CT scan.
- The algorithm can only be used to measure volume of hippocampus of the brain.